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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/083,933 | 02/27/2002 | Mark Yarkosky | 1528 | 8341 |
| 28005 | 7590 | 07/16/2004 | EXAMINER | |
| SPRINT 6391 SPRINT PARKWAY KSOPHT0101-Z2100 OVERLAND PARK, KS 66251-2100 | | | AMINZAY, SHAIMA Q | |
| | | ART UNIT | | PAPER NUMBER |
| | | 2684 | | 2 |

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-------------------|-----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/083,933 | YARKOSKY ET AL. |
| | Examiner | Art Unit |
| | Shaima Q. Aminzay | 2684 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 27 February 2002.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-30 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-30 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: Application Filed: 02/27/2002.
2. Independent Claims 1, 11, 20, 28, and dependent claims 2-10, 12-19, 21-27, and 29-30 are pending in the case.
3. The present title of the application is "Method And Device For Identifying Antennae To Transmit Wireless Signals".

NON-FINAL ACTION

Claim Rejections - 35 USC § 103

◆ The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

◆ Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19 are rejected under 35 U.S.C.103(a) as being unpatentable over Rudrapatna U. S. Publication 20020132600, and in view of Smith et al. U. S. Patent 6006075.

4. Regarding claims 1, 2, and 11, Rudrapatna teaches a CDMA distributed antenna system for transmitting wireless signals (see for example, paragraph [0002], lines 1-4, [0004], lines 1-12, and [0027], lines 1-6) comprising: plurality of

antennas are configured to transmit the wireless signal to the receiver (see for example, paragraph [0031], lines 5-8, and [0032], lines 5-25, the plurality of antennas (103) is configured to transmit to a mobile station), and identifying one of the plurality of antennas to transmit the wireless signal to the receiver and transmitting the wireless signal by the one of the plurality of antennas to the receiver (see for example, paragraph [0032], lines 1-25, when the diversity function selected, one of the antennas is identified and transmits signals to a receiver ([0032], lines 19-25)).

However, Rudrapatna does not teach each antenna is configured to transmit the wireless signal to the receiver, and pathway manager coupled to the plurality of antennas

Smith teaches the antenna selection and individual configuration to transmit the wireless signal to the receiver (see for example, column 5, lines 41-47, an antenna selection and communication channel actuation), and pathway manager coupled to the plurality of antennas (see for example, Figures 1 and 4-6, and column 10, lines 36-67, the controller (32 and with memory 46) performs the pathway manager functions and it is coupled to the plurality of antennas via 42 connects to the Rx (38) and antennas 44 and via 34, connects to RF switch and to antennas 26).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Smith's multi-antenna mobile communication system's controller and antenna selection (see for example, column 4, lines 38-

42, column 7, lines 31-34, and column 5, lines 41-47) with Rudrapatna's distributed antenna system for transmitting wireless signals in a CDMA system (see for example, paragraph [0002], lines 1-4, [0004], lines 1-12, and [0027], lines 1-6) to provide a communication system with diversity antennas and a minimum of a transmitter and reviver interconnect by the communication channels to create "signal diversity to mitigate the effects of transmission of the communication signal on a multi-path, fading channel" that is" utilized in conjunction with any of many different types of transmitters" and to provide greater freedom in the creation of transmission diversity would be advantageous (Smith, see for example, column 1, lines 41-45, column 5, lines 28-34, column 4, lines 38-42).

5. Regarding claims 3, and 13, Rudrapatna and Smith teach claims 1, 11, and further, Smith teaches selecting one of the plurality of antennas based on the stored reliability data (see for example, column 10, lines 36-46, data is stored in memory 46).
6. Regarding claims 4, and 14, Rudrapatna and Smith teach claims 1, 11, and further, Smith teaches selecting an antenna based on proximity to the receiver (see for example, column 5, lines 28-40, and Figures 7-8, and detailed information, column 12, lines 9-67 continues to column 13, lines1-16).
7. Regarding claims 5, 6, 7, 8, 15, 16, 17 and 18, Rudrapatna and Smith teach claims 1, 11, and further, Smith teaches the reverse communication link between the receiver and each one of the plurality of antennas receiver based on signal

strength and established distance (see for example, column 7, lines 19-29, the communication formed based on signal strength and established distance, Figures 7-8, and detailed information, column 12, lines 9-67 continues to column 13, lines 1-16).

8. Regarding claims 9, 10, and 19, Rudrapatna and Smith teach claims 1, 11, and further, Rudrapatna teaches selecting antenna and availability of the plurality of an antenna currently not in use (see for example, paragraph [0027], lines 1-17, selecting available antenna).
9. Regarding claim 12, Rudrapatna and Smith teach claim 1, and further, Smith teaches pathway manager is a device elected from the group consisting of a base transceiver station and distributed antenna system controller and receiver (see for example, Figure 4, column 9, lines 1-9, and column 10, lines 36-67, in Figures 4 controller 32, Receiver 38 (with antennas 44), and transmitter 88 (connected to antennas 26)).

Claim Rejections - 35 USC § 103

◆ The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

◆ Claims 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30 are rejected under 35 U.S.C.103(a) as being unpatentable over Rudrapatna U. S. Publication 20020132600, and in view of Smith et al. U. S. Patent 6006075, and further in view of Katz U. S. Publication 20030032453.

10. Regarding claims 20 and 28, Rudrapatna teaches a CDMA distributed antenna system for transmitting wireless signals (see for example, paragraph [0002], lines 1-4, [0004], lines 1-12, and [0027], lines 1-6) comprising: plurality of antennas where each antenna is configured to transmit a wireless signal to a receiver (see for example, paragraph [0031], lines 5-8, and [0032], lines 5-25, each of the plurality of antennas (103) is configured to transmit to a mobile station), and identifying one of the plurality of antennae to transmit the wireless signal to the receiver and transmitting the wireless signal by the one of the plurality of antennae to the receiver (see for example, paragraph [0032], lines 1-25, when the diversity function selected, one of the antennas is identified and transmits signals to a receiver ([0032], lines 19-25)), and disabling unselected ones of the plurality of antennas from transmitting to the receiver (see for example, paragraph [0032], lines 5-25, specific antenna is activated while all other antennas are inactive or disabled),

However, Rudrapatna does not teach pathway manager coupled to the plurality of antennas, and a data storage medium

Smith teaches pathway manager coupled to the plurality of antennas (see for

example, Figures 1 and 4-6, and column 10, lines 36-67, the controller (32 and with memory 46) performs the pathway manager functions and it is coupled to the plurality of antennas via 42 connects to the Rx (38) and antennas 44 and via 34, connects to RF switch and to antennas 26), and a data storage medium (see for example, , Figures 1 and 4-6, memory 46).

However, Smith does not teach specifically the processor and machine language instructions.

Katz teaches the processor including machine language instructions (see for example, paragraph [0023], lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Katz wireless communication's processor and machine language with Smith's multi-antenna mobile communication system's controller (see for example, column 4, lines 38-42, and column 7, lines 31-34) with Rudrapatna's distributed antenna system for transmitting wireless signals in a CDMA system (see for example, paragraph [0002], lines 1-4, [0004], lines 1-12, and [0027], lines 1-6) to provide a communication system with diversity antennas and a minimum of a transmitter and reviver interconnect by the communication channels to create "signal diversity to mitigate the effects of transmission of the communication signal on a multi-path, fading channel" that is" utilized in conjunction with any of many different types of transmitters" and to provide greater freedom in the creation of transmission diversity would be advantageous

(Smith, see for example, column 1, lines 41-45, column 5, lines 28-34, column 4, lines 38-42).

11. Regarding claims 21, 22, 23 and 29, Rudrapatna and Smith teach claims 20 and 28, and further, Smith teaches the reverse communication link between the receiver and each one of the plurality of antennas receiver based on signal strength and established distance (see for example, column 7, lines 19-29, the communication formed based on signal strength and established distance, Figures 7-8, and detailed information, column 12, lines 9-67 continues to column 13, lines1-16).
12. Regarding claim 24, Rudrapatna and Smith teach claim 20, and further, Smith teaches selecting one of the plurality of antennas based on the stored reliability data (see for example, column 10, lines 36-46, data is stored in memory 46).
13. Regarding claims 25, and 26, Rudrapatna and Smith teach claim 20, and further, Smith teaches selecting an antenna based on proximity to the receiver (see for example, column 5, lines 28-40, and Figures 7-8, and detailed information, column 12, lines 9-67 continues to column 13, lines1-16).
14. Regarding claim 27, Rudrapatna and Smith teach claim 20, and further, Smith teaches pathway manager is a device elected from the group consisting of a base transceiver station and distributed antenna system controller and receiver (see for example, Figure 4, column 9, lines 1-9, and column 10, lines 36-67, in Figures 4 controller 32, Receiver 38 (with antennas 44), and transmitter 88 (connected to antennas 26)).

15. Regarding claim 30, Rudrapatna and Smith teach claim 28. However, Rudrapatna, Smith, and Katz do not specifically teach selecting interfaces such as coaxial cable, an Ethernet cable, and a T1 line. The examiner takes "Official Notice" the fact that it is very well known in the art that the RF communication device interfaces with coaxial cable, Ethernet cable, and a T1 line.

It would have been obvious to one of ordinary skill in the art at the time invention was made to use coaxial cable, an Ethernet cable, and a T1 line with Rudrapatna, Smith, and Katz wireless communication system controller to provide a communication system with greater freedom in the creation of multi-path signal transmission (Smith, see for example, column 4, lines 38-47, and further see for example, Figure 4, and column 10, lines 36-40, the controller (pathway manager) is connected to the RF lines to the antenna via 34 path, and the communication system is not limited to wireless or mobile, column 13, lines 34-44).

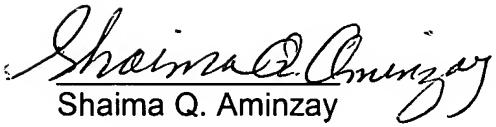
Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 form.

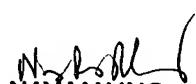
Inquiry

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 703-305-8723. The examiner can normally be reached on 7:00 AM -5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Shaima Q. Aminzay
(Examiner)

July, 07, 2004


NAY MAUNG
SUPERVISORY PATENT EXAMINER
Nay Maung
(SPE)
Art Unit 2684